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Fredrik Alfried Fortier

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FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER
LLP

901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER

MONDT, JOHANNES P

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/568,460	Applicant(s) FORTIER, FREDRIK ALFRIED	
	Examiner JOHANNES P. MONDT	Art Unit 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-38 and 41-57 is/are pending in the application.
- 4a) Of the above claim(s) 30-38 and 41-54 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 55-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/10/09 has been entered.

Response to Amendment

2. Amendment filed on 9/10/09 with said Request forms the basis for this action. In said Amendment applicant substantially amended claims 30-38 and added new claims 55-57. Comments on Remarks submitted with said Amendment are included below under "Response to Arguments".

Election/Restrictions

Claims 30-34 are herewith withdrawn from consideration. Despite the restriction /election of group I, Species A (i.e., "a") on 10/22/08 applicant has included the claimed subject matter of withdrawn claim 40 into independent claim 30. Therefore, claims 30-34 no longer read on the elected invention and accordingly are herewith withdrawn from consideration. As previously stated, the restriction / election requirement was made FINAL and is only petitionable matter at this time. Applicant specifically is referred to the MPEP on Lack of Unity, which rules the restriction practice for national stage applications of international applications, and which was the basis for said requirement,

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when it was shown that (see action of 9/23/08) claim 30 lacked an inventive step (see pages 3-4) in light of the prior art in the form of GB 889,758 made of record by applicant in Information Disclosure Statement filed 2/15/06). In his traverse, applicant does not address this finding of a lack of an inventive step, but instead refers to Chapter 800, which does not apply to the national stage of an international application. Examiner refers again to PCT Rules 13.1 and 13.2, 37 C.F.R. 1.499 ("Unity of Invention during the National Stage") and to Chapter 1800, especially 1801, II, "Determination of Unity of Invention", where it is explained that for unity of invention there must be a "special technical feature" shared by the claims, wherein said special technical feature must contribute over the prior art. No special technical feature is shared by independent claims 30, 55 and 56 because claims 30, 55 and 56 only share the claim language of claim 30, which in the restriction /election requirement mailed 9/23/08 was shown not to define over the prior art, i.e., not to have a special technical feature.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. ***Claims 55-57*** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Further examination has revealed that the

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limitations in all independent claims that the core barrel is "elongate in shape" (claim 55, lines 3-4; claim 56, lines 3-4) finds insufficient support in the original specification including original claims, and hence constitutes new matter. The only limitation in this regard supported by the specification is cylindrical in shape and having an axis which extends vertically. In the sequel and in the past this interpretation will be and has been adhered to.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claim 55** recites (line 18) the limitation "the bearing surfaces". There is insufficient antecedent basis for this limitation in the claim. It is noted that lateral support inherently implies lateral bearing, but "lateral" extends in two dimensions and hence "*the bearing surfaces*" are by no means uniquely inherent to lateral support in the presence of more than one lateral surface of both inner and outer lateral support member (78,80).

5. The term "resiliently deformable" in **claims 56-57** (claim 56, final line and line 2 of claim 57) is a relative term which renders the claim indefinite. The term is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. **Claims 55-56** are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (GB 889,758) (previously cited) in view of Weatherford Jr (US 4,008,757: see IDS)) and Holmes (US 5,772,420) (previously cited).

Williams et al teach a support arrangement that includes

a vessel in the form of a core barrel 12 of a gas- cooled nuclear reactor (lines 37-46 of first page; Figures 1-2), *capable* of being operated at high temperature, which is housed within a reactor pressure vessel 11 (lines 47-53 of page 1), the core barrel being elongate in shape and having an axis which extends vertically (see Figure 2: said axis being an axis of symmetry of core barrel 12 in the Figure 2, which happens to be the vertical symmetry axis of the entire Figure 2);

a single vertical support 14 (lines 47-53 of page 1) including upper and lower support members connected to the core barrel 12 and the reactor pressure vessel 11, resp. (two ends of 14 are connected, one upper portion of 14 to the core barrel 12, the other lower portion to the reactor pressure vessel 11: see Figure 1), the upper and lower portion being centrally positioned about the axis (having left and right hand legs

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equidistant from said axis) between which (inherently (the) vertical loads are transmitted because the connections between the single vertical support and both core barrel and reactor pressure vessel have a component in the vertical direction when vertical is interpreted to be parallel to the height direction of the Drawing of Figure 1; while said upper and lower are relatively displaceable defining oppositely disposed contact surfaces centrally positioned about the axis, given a sufficiently strong displacement force (Examiner Note: the conditions under which “displaceable” has to hold are not further delineated in the claim); and

lateral support means *capable* of providing support to the core barrel and including a plurality of circumferentially spaced upper lateral supports 20/19/17/15 each including a set of inner and outer lateral support members (bearing pads 15 and 17, resp.) (Figures 1-2 and lines 54-65 of page 1) connected to the core barrel 12 and pressure reactor vessel 11, resp. (loc.cit.).

Williams et al do not teach the features that “the upper and lower support members defining respectively downwardly and upwardly disposed contact surfaces through which the vertical loads are transmitted”, nor do Williams et al teach the upper and lower support members to be displaceable under normal operation.

However, it would have been obvious to include the above features in view of Weatherford Jr., who, in a patent on structural support for large pressure vessels (see title and abstract), hence analogous art, teaches a single vertical support comprising base plate 34 on foundation 17 for supporting the vessel, and including upper and lower support members (‘forged support block 50 and ‘lubricated plate member’ or ‘Lubrite

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plate' 47, respectively) (see col. 4, l. 42 and l. 9, resp.), said upper and lower support members being centrally positioned about the axis of the structure to be supported (see Figure) and displaceable relative to one another even in normal operation (see col. 1, l. 43-67, col. 4, l. 41-48 and col. 5, l. 15-20), said upper and lower support members 50 and 47 defining respectively downwardly and upwardly disposed contact surfaces through which the vertical loads are transmitted, in particular: downwardly disposed contact surface of 50 contacting upwardly disposed contact surface of 47 (i.e., concave surface 51 of 50 and convex upper surface of Lubrite plate 47 (see col. 4, l. 29-40). Also note the clearance alongside Lubrite plate 47 (col. 4, l. 9-18) allowing for relative movement of Lubrite plate and base plate 34. *Motivation* to include the teaching by Weatherford Jr in this regard in the invention by Williams derives from the advantage that horizontal forces whether in normal operation or during earthquakes can be absorbed through the relative sliding of the vessel and its foundation (col. 1, l. 60-67).

Williams et al teach said lateral support means to be configured to provide lateral support to the core barrel at or towards an upper end thereof, namely: toward an upper end thereof in the sense that the lateral support is positioned at a higher altitude than the vertical support, and hence is provided toward an upper end thereof from the point of view of the vertical support. *Furthermore, it would have been obvious* to position the lateral support toward an upper end thereof in view of Weatherford, Jr., who teaches the lateral support 11 and 12 toward the (cylindrical) upper end of the vessel (see Figure). One of ordinary skill in the art would deem it obvious to place two supports in mutually

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orthogonal direction not close together, thus preserving the stabilizing effect of the other in the event of a jolt along the first direction.

Williams et al do not necessarily teach the limitation "roller element sandwiched between the inner and outer lateral support members" as recited in claim 30. However, said inner and outer lateral support members 15 and 17 are, in Williams et al, allowed to slide one with respect to the other (see lines 54-65, page 1), and hence it would have been obvious to interpose a roller between the sliding elements 15 and 17 so as to reduce friction, as is evidenced, for instance, by Holmes, who, in a patent addressing a problem of contact between contacting bearing surfaces (see abstract), hence analogous the technical feature of sliding bearing elements in Williams et al, teaches that friction can be reduced by providing roller contact between the bearing surfaces (see column 6, lines 23-26). Motivation to include the teaching by Holmes in this regard derives immediately from the advantage as taught by Holmes to reduce friction between contacting, sliding parts.

Specifically with regard to claim 55, on its limitation "the bearing surfaces of the inner and outer upper lateral support members are inclined upwardly and outwardly relative to the axis of the core barrel":

As explained above, said inner and outer upper lateral support parts are met by elements 15 and 17 in the primary reference (Williams), of which bearing surfaces (interpreted as the surfaces of 15 and 17 respectively that face one another: see Figure 1) are inclined upwardly and outwardly (see Figure 1) relative to the axis of the core barrel. Said axis extends vertically. The bearing surface of 15 extends outward and the

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bearing surface of 17 extends upward. Therefore, claim 55 is unpatentable over the same prior art as claim 30 before its current amendment.

Specifically with regard to claim 56, on its limitation "at least one of the inner and outer upper lateral support members of each set of inner and outer lateral support members being mounted on a resiliently deformable support":

Said resiliently deformable support is met by U-shaped guide member 20 in the primary reference (Williams), on which 17 is lifted or placed on. Resilience and deformability follow from the abutting biological shield 21 (page 1, line 65, second col. 2), while, apart from said biological shield, "deformable" and "resilient" are relative terms or terms of degree met to a variable but ill-defined degree by material in general (see rejection as set forth above under 35 USC 112, second paragraph).

Response to Arguments

Applicant's arguments filed 9/10/09 have been fully considered but they are not persuasive.

Applicant's states (pages 13-14) that Williams "cannot provide the claimed "upper and lower support members" on account that it is only a single piece (interpreted to mean that upper and lower support members are part of a single piece) fails to persuade because different components are distinguishable also in integrated or unitary structures and the claim language does not exclude integration.

Applicant's argument that component 12 is not a core barrel, but instead component 10 is the core barrel. Examiner disagrees because 12 is "support grid" while

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10 is "core structure" (see Williams, page 2, second column, lines 78-85), i.e., the core itself. Core barrels do not define the core itself but provide support for the core. See, for instance, Stockhausen (US 5,459,768), Figure 1 (core = 2, core barrel = 16; see col. 3, l. 62 – col. 4, l. 21).

Therefore, the traverse of the rejection of claim 30 in the previous Office action fails to convince of error.

New Claim 55 has, in comparison with the rejected claim 30, only the following additional limitation: "the bearing surfaces of the inner and outer upper lateral support members are inclined upwardly and outwardly relative to the axis of the core barrel". As explained in the prior office action, said inner and outer upper lateral support parts are met by elements 15 and 17, of which bearing surfaces (interpreted as the surfaces of 15 and 17 respectively that face one another: see Figure 1) are inclined upwardly and outwardly (see Figure 1) relative to the axis of the core barrel. Said axis extends vertically. The bearing surface of 15 extends outward and the bearing surface of 17 extends upward. Therefore, claim 55 is unpatentable over the same prior art as claim 30 before its current amendment.

New claim 56 has, in comparison with the rejected claim 30 as set forth in the previous office action, only the following additional limitation: "at least one of the inner and outer upper lateral support members of each set of inner and outer lateral support members being mounted on a resiliently deformable support". Said resiliently deformable support is met by U-shaped guide member 20, on which 17 is lifted or placed on. Resilience and deformability follows from the abutting biological shield 21

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(page 1, line 65, second col. 2), while, apart from said biological shield, “deformable” and “resilient” are relative terms or terms of degree met by material in general.

Therefore, claim 56 is unpatentable for being indefinite and also unpatentable over the same prior art as claim 30 before its current amendment. New claim 57 also is indefinite for containing relative terms, with reference to the rejection under 35 U.S.C. 112, second paragraph above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHANNES P. MONDT whose telephone number is (571)272-1919. The examiner can normally be reached on 8:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Jack W. Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JOHANNES P MONDT/

Primary Examiner, Art Unit 3663